Rapid gist perception of meaningful real-life scenes: exploring individual and gender-specific differences in multiple categorization tasks

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Rapid gist perception can be assessed in multiple ways. In the ultra-fast categorization paradigm developed by Simon Thorpe and colleagues (1996), participants get a clear categorization goal in advance and succeed at detecting the object (animal) almost perfectly. Since this pioneering work, follow-up studies consistently reported population-level reaction time differences in performance on different categorization tasks explained by a superordinate advantage (animal versus dog), perceptual similarity (animals versus vehicles) and object category size (natural versus animal versus dog). In this study, we replicated and extended these separate findings by using an explorative test battery of different categorization tasks (varying in presentation time, task demands and stimuli) and focusing on individual differences based on gender, IQ, and questionnaires (e.g., BRIEF, SRS, EQ, SQ). Within this structured framework, we find subtle, yet consistent gender differences in the performance of healthy adults (women faster than men). Given the combined expectations of the Weak Central Coherence theory (WCC) on slowed rapid gist perception and the dimensional, gender-sensitive expectations of the extreme male brain (EMB) theory, stronger deficits are expected when testing people with ASD on the same test battery.